S/N: Page 3

Docket: CS02-096

Preliminary Amendment filed with Patent Application

## AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph beginning at Page 7, Line 17 with the following amended paragraph (showing changes):

Figure 3B shows a Prolight intensity simulation showing Intensity vs displacement for a levenson mask and the embodiments' single trench half tone alt-PSM.

Please replace the paragraph beginning at Page 14, Line 1 with the following amended paragraph (showing changes):

## H. Prolitho intensity simulation

Figure 3B shows an a Prolitho intensity simulation for the embodiment's single trench half tone alternating PSM. The figure shows Two curves: (302) levenson PSM (opaque layer on substrate between openings) with no undercuts, and (300) the embodiment's single trench half tone alternating PSM. The masks have equal line width and space of 0.18  $\mu$ m at 0.248  $\mu$ m wavelength illumination.

Please replace the paragraph beginning at Page 16, Line 9 with the following amended paragraph (showing changes):

As displayed in figure 4G, we form a trench 32 in the phase shift region 20. The trench preferably has a depth 33 so that the phase shift region 20 has a phase shift of about 180 degrees with respect to light transmitted through the unshifted phase region. The trench can be etch. The trench can have straight or rounded sidewalls. The bottom of the trench ean be is preferably flat-or rounded. An advantage of the embodiment is that the trench can have flat sidewalls and bottom and the trench does not have to be undercut. This reduces manufacturing costs.

S/N: Page 4

Docket: CS02-096

Preliminary Amendment filed with Patent Application

Please replace the paragraph and table beginning at Page 20, Line139 with the following amended paragraph and table (showing changes):

Table 2 : <u>Preferred Characteristics Characteristic</u> of <u>the</u> dual trench half tone alt-phase shift mask.

Region	phase shift relative light transmitted thru the (unshifted) mask substrate (degrees)	transmittance (%)
first phase shift section (R)	270   degrees   range = 268 to 282 272   degrees	100 <u>%</u> range = 95 to 100 <u>%</u>
half tone section (S)	270 degrees range = 268 to 272 degrees	most preferred range = 3 to 30 % preferred range = 0.1 to 98%
second phase shift section (T)	90 degrees range = 88 to 92 <u>degrees</u>	100% range = 95 to 100 %
opaque section (U)	0- not applicable	0

Please replace the paragraph beginning at Page 23, Line 20 with the following amended paragraph (showing changes):

The second trenches 236 are preferably etched to a depth to produce a phase shift of 180 degree relative to the light transmitted thru the (not yet formed) first trenches 220 (see figure 5). Preferably the second trench is etched to a depth 237 337 that phase shifts light about 90 degree relative to the unetched (full thickness) substrate.